PMD29
ECONOMIC IMPACT DERIVED FROM THE USE OF A CATHETER IMPREGNATED WITH ANTIBIOTIC IN PEDIATRIC PATIENTS WITH HYDROCEPHALUS TREATED WITH EXTERNAL SHUNTS IN MEXICO

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OBJECTIVES: Estimate the economic impact derived from the use of antibiotic-impregnated catheters vs. traditional, non-antibiotic-impregnated catheters for the treatment of hydrocephalus in pediatric patients with external shunts from a Mexican public hospital perspective (IMSS). **METHODS:** An Excel-based decision tree was used to estimate the economic consequences of using an antibiotic-impregnated catheter (treatment group) vs. a catheter without antibiotic (control group) for target population. Given procedure volume variability in comparable hospitals, base-case scenario assumed 100 pediatric patients with hydrocephalus and only one potential infection after first catheter placement; the antibiotic-impregnated device was assumed as second-line treatment for both groups. Infection rates after catheter placement for considered alternatives were taken from published international meta-analyses (2.4% vs. 8.7% for treatment and control groups, respectively). Unitary costs were provided by internal resources (antibiotic-impregnated device) and by public bid results for base-case hospital (traditional catheter). Considered time horizon was <1 year, thus no annual discount rate for costs was necessary. Inflation-adjusted DRGs from IMSS´s high specialty hospitals were used as hospitalization (catheter placement) and catheter replacement costs. Results are shown in 2015-adjusted USD. Due to low reinfection rates documented in literature, posterior infections and mortality were not considered. **RESULTS:** The total cost of the catheter with antibiotic strategy resulted in $1,610,600, while the non-antibiotic catheter strategy in $1,542,200, resulting in additional $684 per patient treated with the antibiotic-impregnated device and $11,400 per avoided infection. **CONCLUSIONS:** The use of antibiotic-impregnated catheters appears to be a cost-effective alternative to treat hydrocephalus in pediatric patients in the Mexican setting. Local high-specialty hospitals should consider the adoption of this alternative as it yields less infections in target population.

PMD30
COST-UTILITY OF DEEP BRAIN STIMULATION FOR THE TREATMENT OF ADVANCED PARKINSON'S DISEASE IN THE UNITED STATES

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OBJECTIVES: Deep brain stimulation (DBS), which uses an implantable device to modulate brain activity, has been shown to be clinically superior to medical therapy for treating advanced Parkinson's disease. Our objective was to study the cost-utility of DBS in conjunction with medical therapy compared to best medical therapy (BMT) alone, using the latest clinical and cost data for the U.S. healthcare system. **METHODS:** We used a decision-analytic state-transition (Markov) model to project Parkinson's disease progression and associated costs for the two treatment strategies. We estimated the discounted incremental cost-effectiveness ratio (ICER) in U.S. dollars per quality-adjusted life-year (QALY) from the Medicare payer perspective, considering a 10-year horizon. We evaluated the robustness of our projections through extensive deterministic sensitivity analyses. **RESULTS:** Over 10 years, DBS treatment led to discounted total costs of $129,345 compared to $91,026 for BMT and added 1.69 QALYs more than BMT, resulting in an ICER of $22,713 per QALY. This ICER was relatively insensitive to variations in input parameters, with neurostimulator replacement timepoint, costs related to DBS implantation, and costs related to the treatment of disease-related falls having the greatest effects on the ratio. Across all investigated scenarios, including a 5-year horizon, ICERs remained under $50,000 per QALY. Longer follow-up periods and younger treatment age were associated with greater cost-effectiveness. **CONCLUSIONS:** Our findings suggest that DBS is a cost-effective treatment strategy in the U.S. healthcare system across a wide range of assumptions. DBS yields substantial improvements in health-related quality of life at a value profile that compares favorably to other well-accepted therapies.

PMD31
ECONOMIC OUTCOMES AMONG MEDICARE PATIENTS RECEIVING SKIN SUBSTITUTES FOR TREATMENT OF DIABETIC FOOT ULCERS

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OBJECTIVES: To compare the real-world medical services utilization and associated costs of Medicare patients with diabetic foot ulcers (DFU) treated with either of the following two types of skin substitutes: bilayered living cellular construct (BLCC) or human fibroblast-derived dermal substitute (HFDS) with those receiving conventional care (CC). **METHODS:** DFU patients were selected from Medicare de-identified administrative claims using ICD-9-CM codes. The analysis followed an "intent-to-treat" design, with cohorts assigned based on use of (1) BLCC, (2) HFDS, or (3) CC (i.e., ≥1 claim for a DFU-related treatment procedure or podiatrist visit and no evidence of skin substitute use) for treatment of DFU in 2006-2012. Propensity score models were used to separately match BLCC and HFDS patients to CC patients with similar baseline demographics, wound severity, and physician experience measures. Medical resource use, lower-limb amputation rates, and total healthcare costs (2012 USD; from payer perspective) during the 18 months following treatment initiation were compared separately among the two resulting matched samples. **RESULTS:** Data for 502 matched BLCC-CC patient pairs and 222 matched HFDS-CC patient pairs were analyzed. Relative to matched CC patients, BLCC and HFDS patients had fewer days hospitalized (BLCC: -33.3% p<0.01, HFDS: -42.4% p<0.01) and fewer emergency department visits (BLCC: -32.3% p<0.01, HFDS: -25.7% p<0.01), as well as lower amputation rates (BLCC: -27.6% p=0.04, HFDS: -22.2% p=0.19) during the 18-month follow-up period. While BLCC and HFDS patients did have higher costs for outpatient services (BLCC: +$7,100 p<0.01, HFDS: +$11,947 p<0.01), overall, these patients had lower average per-patient healthcare costs during the 18-month follow-up period compared with their respective matched CC counterparts (BLCC: -$5,253 p=0.49, HFDS: -$6,991 p=0.84). **CONCLUSIONS:** These findings suggest that use of BLCC and HFDS for treatment of DFU may lower overall medical costs through reduced utilization of costly healthcare services.

PMD32
COST-EFFECTIVENESS OF STIMULATION OF THE SPHENOPALATINE GANGLION (SPG) FOR THE TREATMENT OF CHRONIC CLUSTER HEADACHE: A MODEL-BASED ANALYSIS BASED ON THE PATHWAY CH-1 STUDY

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OBJECTIVES: In the recent Pathway CH-1 study, on-demand stimulation of the sphenopalatine ganglion (SPG) by means of an implantable neurostimulation system was proven to be a safe and effective therapy for the treatment of chronic cluster headache. Our objective was to assess the cost-effectiveness of SPG stimulation in the German healthcare system when compared to medical management. **METHODS:** Clinical data from the Pathway CH-1 study were used as input for a model-based projection of the cost-effectiveness of SPG stimulation through 5 years. Medical management as the comparator treatment was modeled on the basis of clinical events observed during the baseline period of CH-1. The costs of treatment were derived from a previously published cluster headache costing study and2014 medication, neurostimulator, and procedure costs. We computed the 5-year incremental cost-effectiveness ratio (ICER) in euros per quality-adjusted life year (QALY), with costs and effects discounted at 3% per year. **RESULTS:** SPG stimulation was projected to add 0.325 QALYs over the study period, while adding €681 in cost, resulting in a 5-year ICER of €2,097 per QALY gained. Longer follow-up periods, higher baseline attack frequency, and higher utilization of attack-aborting medications led to overall cost savings. SPG stimulation was found either cost-effective or cost-saving across all scenarios investigated in sensitivity analyses. **CONCLUSIONS:** Our model-based analysis suggests that SPG stimulation for the treatment of chronic cluster headache, under the assumption of sustained therapy effectiveness, leads to meaningful gains in health-related quality of life and is a cost-effective treatment strategy in the German healthcare system.

PMD33
HUMANISTIC AND ECONOMIC OUTCOMES AMONG PATIENTS RECEIVING PERCUTANEOUS INTERVENTION

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OBJECTIVES: The objective was to study the economic and humanistic outcomes among acute coronary syndrome patients receiving percutaneous coronary intervention (PCI) in a tertiary care setup in South India. **METHODS:** Total 240 acute coronary syndrome patients visiting to tertiary care multispecialty hospital in south India were included in to the study from 2011 to 2013. Prior ethical approval was taken and patients were included after signing the consent form. All the patients included were receiving PCI first time. Socio-demographic, clinical diagnostic and risk factor data was collected using a pilot tested data collection sheet. EQ5D was used to collect the humanistic data on discharge, 1 month, 3 month, 6 month follow up. The cost incurred in the intervention and other direct costs were taken from the bill paid by the patient at discharge. SPSS 15.0 was used to analyse the collected data and demographic results were represented with descriptive statistics and Mann-Whitney test was carried to compare the costs among both the groups. Repeated measures ANOVA was done to check the difference in VAS score in baseline and follow-up cases. **RESULTS:** 80 percent of the patients were males and their mean age was 57.65 ±10.103 with 70 of them coming from rural background. Average monthly income of the patients receiving BMS and DES was found to be 10212.5 ± 8750 and 12859.28 ± 7673.277 respectively. Almost half of the patients were having hypertension as a major co-morbid condition. Smoking, sedentary lifestyle and alcohol consumption ware predominant risk factors. Baseline EQ5D VAS scores were 0.5054 ± 0.1848 and 0.4715 ± 0.1615 among patients receiving BMS and DES. There was a significant difference (p<0.001) in the cost among the patients receiving both BMS and DES. **CONCLUSIONS:** There is a significant difference in the cost incurred and health related quality of life achieved among both groups due to disparity in economic status.

PMD34
A SYSTEM DYNAMICS MODEL FOR THE COST-EFFECTIVENESS EVALUATION OF BACTERIAL WHOLE-GENOME SEQUENCING FOR DETECTING AND MONITORING OUTBREAKS OF MRSA

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OBJECTIVES: To develop a system dynamics model with a stochastic component to analyse the cost-effectiveness of bacterial whole-genome sequencing (WGS) versus current typing methods to detect and monitor outbreaks of methicillin-resistant Staphylococcus aureus (MRSA) in the UK National Health Service (NHS). **METHODS:** The model, developed in R, simulated a low-risk ward and a high-risk ward (e.g. an intensive care unit). Patients were assumed to move between three states: susceptible, colonised, or infected (symptomatic). Healthcare workers were either uncontaminated or MRSA-colonised. Clinical inputs were identified from peer-reviewed primary research papers, systematic reviews, published models, data published by the NHS and from clinical experts. Relevant costs were identified from the Department of Health guidelines on MRSA infection management, and other pub-